

AMENDMENTS TO CLAIMS

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1 (original). A method for analyzing the energy content of an electrical signal for detecting voice, said method comprising the steps of:

- (a) digitizing the signal;
- (b) defining a first threshold and a second threshold, wherein the first threshold is greater than the second threshold;
- (c) comparing the digitized signal with the first threshold and the second threshold to produce a number representative of the comparison;
- (d) repeating steps (b) and (c) to produce a plurality of numbers;
- (e) converting the plurality of numbers into a first sum; and
- (f) comparing the first sum to a third threshold, wherein a sum exceeding the third threshold is indicative of a voice signal.

C/ 2 (original). The method as set forth in claim 1 wherein said converting step includes the steps of:

- weighting each number representative of a comparison; and
- summing the weighted numbers.

3 (original). The method as set forth in claim 2 wherein larger numbers receive greater weight than smaller numbers to produce a quasi-RMS calculation.

4 (original). The method as set forth in claim 1 and further including the steps of:

- counting the number of numbers that exceed the first threshold;
- comparing the number to a fourth threshold; and
- indicating a voice signal when the first sum exceeds the third threshold and the number exceeds the fourth threshold.

5 (original). The method as set forth in claim 1 and further including the steps of:

- counting the number of numbers that exceed the first threshold;
- comparing the number to a fourth threshold; and

increasing the first threshold when the number is greater than the fourth threshold.

6 (original). The method as set forth in claim 1 and further including the steps of:

counting the number of numbers that are less than the second threshold;  
comparing the number to a fourth threshold; and  
decreasing the second threshold when the number is less than the fourth threshold.

7 (original). The method as set forth in claim 6 and further including the step of:

not counting the number of numbers that are less than the second threshold while the first sum exceeds the third threshold.

8 (original). The method as set forth in claim 1 wherein comparing step (c) uses only the  $m$  most significant bits of the digitized signal.

9 (original). The method as set forth in claim 8 wherein  $m = 6$ .

10 (original). A method for providing a digital representation of the energy content of an electrical signal, said method comprising the steps of:

- (a) digitizing the signal;
- (b) defining a first threshold and a second threshold, wherein the first threshold is greater than the second threshold;
- (c) comparing the digitized signal with the first threshold and the second threshold to produce a number representative of the comparison;
- (d) repeating steps (b) and (c) to produce a plurality of numbers;
- (e) converting the plurality of numbers into a sum.

11 (original). The method as set forth in claim 10 wherein said converting step includes the steps of:

weighting each number representative of a comparison; and

summing the weighted numbers.

12 (original). The method as set forth in claim 11 wherein larger numbers receive greater weight than smaller numbers to produce a quasi-RMS calculation.

13 (new). In a telephone including a receive channel, a transmit channel, an echo canceling circuit coupled between the receive channel and the transmit channel, and a state processor, the improvement comprising:

a voice activity detector having an input coupled to one channel, an output coupled to said state processor, and means for statistically analyzing a signal on said input without measuring amplitude or power.

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14 (new). The telephone as set forth in claim 13 wherein said means includes:

means for sampling said signal to produce a plurality of samples;

means for comparing each sample with at least one threshold to produce a number representative of each comparison;

means for summing the numbers representative of each comparison,

means for comparing the sum with a threshold and producing an indication of whether or not the threshold is exceeded, thereby indicating the presence of voice in said signal.

15 (new). The telephone as set forth in claim 14 wherein said means for sampling is a analog to digital converter.

16 (new). The telephone as set forth in claim 13 wherein said means includes:

means for comparing the signal with at least one threshold to produce a number representative of each comparison;

means for sampling said number to produce a plurality of samples;

means for summing the numbers representative of each comparison,

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means for comparing the sum with a threshold and producing an indication of whether or not the threshold is exceeded, thereby indicating the presence of voice in said signal.

17 (new). The telephone as set forth in claim 13 wherein said telephone is a speaker phone.

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